? IMPORTANT INFORMATION KEEP FOR OPERATOR IMPORTANT INFORMATION ?

OPERATOR AND SERVICE MANUAL

OM/SM-HY-6E(CE)

Part Number 128717

INTERNATIONAL

Model: HY-6E(CE)
HyPerSteam™
Atmospheric Convection
Steamer - CE

Self-Contained
Electric Heated
Capacity: 6 Steamer Pans
(305 x 508 x 64 mm)

HY-6E(CE)

KEEP THIS MANUAL WITH STEAMER DOCUMENTS. OPERATORS AND TECHNICIANS SHOULD READ, UNDERSTAND AND FOLLOW INSTRUCTIONS AND WARNINGS IN THIS MANUAL.

GROEN®

Information contained in this document is known to be current and accurate at the time of printing/creation. Unified Brands recommends referencing our product line websites, unifiedbrands.net, for the most updated product information and specifications.

MADE IN USA™

IMPORTANT — READ FIRST — IMPORTANT

THESE APPLIANCES MUST BE INSTALLED BY A COMPETENT PERSON IN CONFORMITY WITH THE INSTALLATION AND SERVICING INSTRUCTIONS AND NATIONAL REGULATIONS IN FORCE AT THE TIME. PARTICULAR ATTENTION MUST BE PAID TO THE FOLLOWING:

I. E. E. REGULATIONS FOR ELECTRICAL INSTALLATIONS
ELECTRICITY AT WORK REGULATIONS
HEALTH AND SAFETY AT WORK ACT
FIRE PRECAUTIONS ACT
LOCAL AND NATIONAL BUILDING REGULATIONS

USERS SHOULD BE CONVERSANT WITH THE APPROPRIATE PROVISIONS OF THE FIRE PRECAUTIONS ACT. IN PARTICULAR THEY SHOULD BE AWARE OF THE NEED FOR REGULAR SERVICING BY A COMPETENT PERSON TO ENSURE THE CONTINUED SAFE AND EFFICIENT PERFORMANCE OF THE APPLIANCE.

WARNING: TO PREVENT SHOCKS, ALL APPLIANCES WHETHER GAS OR ELECTRIC, MUST BE EARTHED.

UPON COMPLETION OF THE INSTALLATION, THE OWNERS MANUAL SHOULD BE HANDED TO THE USERS AND THE INSTALLER SHOULD INSTRUCT THE RESPONSIBLE PERSON(S) IN THE CORRECT OPERATION AND MAINTENANCE OF THE APPLIANCE.

THIS EQUIPMENT IS ONLY FOR PROFESSIONAL USE, AND SHALL BE OPERATED BY QUALIFIED PERSONS. IT IS THE RESPONSIBILITY OF THE SUPERVISOR OR EQUIVALET TO ENSURE THAT USERS WEAR SUITABLE PROTECTIVE CLOTHING AND TO DRAW ATTENTION TO THE FACT THAT, SOME PARTS WILL, BY NECESSITY, BECOME VERY HOT AND WILL CAUSE BURNS IF TOUCHED ACCIDENTALLY.

UNLESS OTHERWISE STATED, PARTS WHICH HAVE BEEN PROTECTED BY THE MANUFACTURER ARE NOT TO BE ADJUSTED BY THE INSTALLER.

WARNING: AVOID ANY EXPOSURE TO THE STEAM COMING OUT WHEN OPENING THE DOOR.

BEFORE ATTEMPTING ANY SERVICING, ENSURE THAT THE ELECTRICAL SUPPLY IS DISCONNECTED.

WARNING: THE UNIT MUST BE INSTALLED BY PERSONNEL QUALIFIED TO WORK WITH ELECTRICITY AND PLUMBING. IMPROPER INSTALLATION CAN CAUSE INJURY TO PERSONNEL AND/OR DAMAGE TO THE EQUIPMENT. THE UNIT MUST BE INSTALLED IN ACCORDANCE WITH APPLICABLE CODES.

CAUTION: SHIPPING STRAPS ARE UNDER TENSION AND CAN SNAP BACK WHEN CUT.

CAUTION: DO NOT INSTALL THE UNIT IN ANY WAY WHICH WILL BLOCK THE RIGHT SIDE VENTS, OR WITHIN 12 INCHES (305 MM) OF A HEAT SOURCE SUCH AS A BRAISING PAN, DEEP FRYER, CHAR-BROILER OR KETTLE.

CAUTION: LEVEL THE UNIT FRONT TO BACK, OR PITCH IT SLIGHTLY TO THE REAR, TO AVOID DRAINAGE PROBLEMS.

WARNING: TO AVOID DAMAGE OR INJURY, FOLLOW THE WIRING DIAGRAM EXACTLY WHEN CONNECTING A UNIT.

CAUTION: DO NOT USE PLASTIC PIPE. DRAIN MUST BE RATED FOR BOILING WATER.

WARNING: DO NOT CONNECT THE DRAIN DIRECTLY TO A BUILDING DRAIN.

WARNING: BLOCKING THE DRAIN IS HAZARDOUS.

IMPORTANT: IMPROPER DRAIN CONNECTION WILL VOID WARRANTY.

IMPORTANT: DO NOT ALLOW ANY WATER TRAPS IN THE LINE. A TRAP CAN CAUSE PRESSURE TO BUILD UP INSIDE THE CAVITY DURING STEAMING, WHICH WILL MAKE THE DOOR GASKET LEAK.

WARNING: WHEN YOU OPEN THE DOOR, STAY AWAY FROM STEAM COMING OUT OF THE UNIT. STEAM CAN CAUSE BURNS.

WARNING: BEFORE CLEANING THE OUTSIDE OF THE STEAMER, DISCONNECT THE ELECTRIC POWER SUPPLY. KEEP WATER AND CLEANING SOLUTIONS OUT OF CONTROLS AND ELECTRICAL COMPONENTS. NEVER HOSE OR STEAM CLEAN ANY PART OF THE UNIT.

WARNING: ALLOW COOKING CHAMBER TO COOL BEFORE CLEANING.

WARNING: CAREFULLY READ THE WARNINGS AND FOLLOW THE DIRECTIONS ON THE LABEL OF EACH CLEANING AGENT. USE SAFETY GLASSES AND RUBBER GLOVES AS RECOMMENDED BY DE-LIMING AGENT MANUFACTURER.

WARNING: DO NOT MIX DE-LIMING AGENTS (ACID) AND DE-GREASERS (ALKALI).

WARNING: DO NOT PUT HANDS OR TOOLS INTO THE COOKING CHAMBER UNTIL THE FAN HAS STOPPED TURNING.

WARNING: DO NOT OPERATE THE UNIT UNLESS THE REMOVABLE LEFT AND RIGHT SIDE PANELS HAVE BEEN RETURNED TO THEIR PROPER LOCATIONS.

NOTICE: DO NOT USE A CLEANING OR DE-LIMING AGENT THAT CONTAINS ANY SULFAMIC ACID OR ANY CHLORIDE, INCLUDING HYDROCHLORIC ACID. IF THE CHLORIDE CONTENT OF ANY PRODUCT IS UNCLEAR, CONSULT THE MANUFACTURER.

NOTICE: DO NOT USE ANY DE-GREASER THAT CONTAINS POTASSIUM HYDROXIDE OR SODIUM HYDROXIDE OR THAT IS ALKALINE.

WARNING: USE OF ANY REPLACEMENT PARTS OTHER THAN THOSE SUPPLIED BY GROEN OR THEIR AUTHORIZED DISTRIBUTOR VOIDS ALL WARRANTIES AND CAN RESULT IN BODILY INJURY TO THE OPERATOR AND DAMAGE THE EQUIPMENT. SERVICE BY OTHER THAN FACTORY-AUTHORIZED PERSONNEL WILL VOID ALL WARRANTIES.

WARNING: HIGH VOLTAGE EXISTS INSIDE CONTROL COMPARTMENTS. DISCONNECT FROM BRANCH BEFORE SERVICING. FAILURE TO DO SO CAN RESULT IN SERIOUS INJURY OR DEATH.

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References

UNDERWRITERS LABORATORIES, INC.
333 Pfingsten Road
Northbrook, Illinois 60062

KLENZADE SALES CENTER
ECOLAB, Inc.
370 Wabasha
St. Paul, Minnesota 55102
800 328-3663 or 612 293-2233

NATIONAL FIRE PROTECTION ASSOCIATION
60 Battery March Park
Quincy, Massachusetts 02269

NFPA/70 The National Electrical Code

NATIONAL SANITATION FOUNDATION
3475 Plymouth Road
Ann Arbor, Michigan 48106

1.0 - Equipment Description

Your Groen HY-6E (CE) HyPerSteam Convection Steamer is designed to give years of service. It has two stainless steel cavities (cooking chambers) which are served by twin, independent atmospheric steam generators which are electrically-heated. A powerful blower circulates the steam in each cavity to increase heating efficiency.

Each cavity holds up to three steam table pans (305 x 508 x 64 mm). A 1.5 mm stainless steel case encloses the cavities, the steam generators and the control compartment that houses electrical components. Door hinges are reversible (the doors may be set to open from the left or right). Operating Controls are on the front panel.

HY-6E (CE) steamers are equipped with fully electronic controls and a button-activated, preprogrammed CLEAN cycle.

The drain system includes a spray condenser, which helps keep steam from escaping down the condensate drain.

The HY-6E (CE) has two independent cavities, each with its own base-mounted steam generator. (New model shown).

2.0 - Inspection and Unpacking

Your HY-6E HyPerSteam will be delivered completely assembled in a heavy shipping carton and attached to a skid. On receipt, inspect the carton carefully for exterior damage.

CAUTION
SHIPPING STRAPS ARE UNDER TENSION AND CAN SNAP BACK WHEN CUT.

Carefully cut the straps around the carton and detach the sides of the carton from the skid. Be careful to avoid personal injury. Strap edges may be very sharp, particularly where cut. Write down the model number, serial number and installation date. Space for these entries is provided in the Service Log at the back of this manual. Keep the manual near the equipment for reference and update as needed.

CAUTION
THIS UNIT WEIGHS 500 LBS. (250 KG). GET HELP AS NEEDED AND USE MATERIAL HANDLING EQUIPMENT TO MOVE IT.

When installing, use material handling equipment to lift the unit straight up from the skid. Check packing materials for any loose parts.

The unit will be delivered in a heavy carton, strapped to a wooden skid.

3.0 - Water Conditioning

It is essential to supply the steam generator with water that will not form scale. Even though the steam generator is engineered to minimize scale formation, scale development depends on the hardness of your water and the number of hours the equipment operates.

In some areas of the country, water is low enough in minerals to avoid scale formation. But most water supplies are full of minerals which form scale. It is this scale which could lead to an early component failure.

Your water utility can tell you about the minerals in your water. The water going to the steam generator should have between 10 and 30 parts per million (ppm) total dissolved solids (TDS) and should have a pH (acidity rating) of 7.0 or higher. Please follow these simple precautions:

3.1 Do not **rely on unproven water treatments** which are sold as scale prevention or scale removers. **They don't always work**. The best way to prevent scale is to supply the purest possible water (10 - 30 ppm TDS).

3.2 If your water contains scale-forming minerals, as most water does, use a well-maintained water softener. Whether an exchangeable softener cartridge or a regenerating system is chosen, a regular exchange system is essential.

3.3 Installing a water meter between the softener and the steamer will provide an accurate gauge of water use, and will help determine when to exchange cartridges or regenerate the softener. Using a water softener will provide longer generator life, higher steam capacity, and reduce maintenance requirements.

3.4 If you notice a slowdown in steam production, check the unit for scale build-up. Heavy scale reduces the unit's ability to boil water, and can even cause heating elements in the steam generator to overheat and burn out.

MINIMIZE SCALE PROBLEMS BY USING AND MAINTAINING A SOFTENER, AND BY CLEANING THE STEAMER REGULARLY.

The BPST Connection on the right rear side of the steamer.

4.0 - Installation and Start-Up

WARNING
THE UNIT MUST BE INSTALLED BY PERSONNEL WHO ARE QUALIFIED TO WORK WITH ELECTRICITY AND PLUMBING. IMPROPER INSTALLATION CAN CAUSE INJURY TO PERSONNEL AND/OR DAMAGE TO THE EQUIPMENT. THE UNIT MUST BE INSTALLED IN ACCORDANCE WITH APPLICABLE CODES.

CAUTION
DO NOT INSTALL THE UNIT WITH THE RIGHT SIDE VENTS BLOCKED OR WITHIN 30 CENTIMETERS OF A HEAT SOURCE (SUCH AS A BRAISING PAN, DEEP FRYER, CHAR BROILER, OR KETTLE).

TO AVOID DRAINAGE PROBLEMS, LEVEL THE UNIT FRONT TO BACK.

4.1 Electrical Supply Connection

4.1.1 Access for Connection

Panel Removal
Open the lower front panel by removing the screws from panel. Lift the panel, and swing its bottom toward you. Set the panel aside.

4.1.2 Supply Voltage

The unit must be operated at the rated nameplate voltage, plus or minus 10 percent.

4.1.3 Phase Selection

Refer to the schematic (Page 31) for wiring information.

CAUTION
THE UNIT MUST HAVE A SEPARATE EARTHING WIRE FOR SAFE OPERATION.

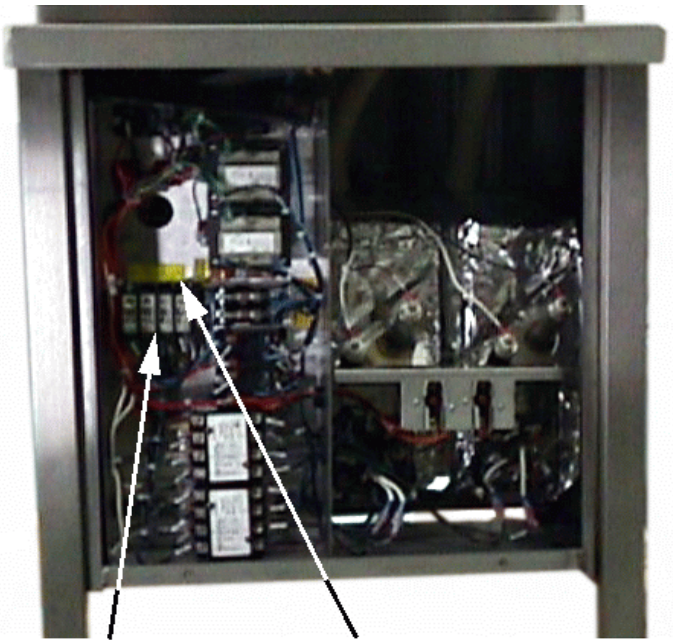
4.1.4 Terminal Block

The terminal block for incoming power is located at the back of the control compartment.
The ground terminal is located in the wiring compartment next to the terminal block. **The unit must have a separate ground wire for safe operation**. The earthing wire must be of the same size as the supply wire.

4.1.5 Supply wire

WARNING
TO AVOID DAMAGE OR PERSONAL INJURY, FOLLOW THE ELECTRICAL SCHEMATIC EXACTLY WHEN CONNECTING THE UNIT.

Determine the type of wire you need for the power supply, find the operating voltage and phase on the unit data plate, or use the table on the next page. The “Electrical Supply Connection” label inside the unit gives directions for proper connection of the terminal block jumpers. The knockout hole is sized for a 35 mm conduit fitting.



WARNING
TO AVOID DAMAGE OR INJURY, FOLLOW THE ELECTRICAL SCHEMATIC EXACTLY WHEN CONNECTING THE UNIT.

HY-6E (CE) HyPerSteam™ convection steamers operate at 400 Volts (Three Phase) or 230 Volts (One Phase).

ELECTRICAL SUPPLY CONNECTIONS

Model	Voltage	Maximum Kw	Field Wiring	Current Demands
HY-6E (CE)	400 - 3 Phase	19	10 AWG	26.5 Amps
	230 - 1 Phase	19	4 AWG	72 Amps

4.1.5 Branch Circuit Protection

Each conductor must have overcurrent protection. Connections to the unit must be watertight.

We strongly recommend that the HY-6E Steamer have its own branch circuit protection.

4.1.6 **Equipotential Terminal**: In accordance with national regulations, each unit is fitted with an equipotential terminal.

4.2 Water Connection(s)

Install a check valve to prevent back flow in the incoming cold water line, as required by local plumbing codes. Water pressure in the line should be between 30 and 60 PSIG (210 and 420 kPa). If pressure is above 60 PSIG (420 Kpa), a pressure regulator will be needed. A 19 mm BSPT connector is used to attach the water supply to the water inlet valve. The minimum water feed line diameter is ½ inch (13mm). Use a washer in the hose connection. Do not allow the connection to leak, no matter how slow it may be.

STEAM GENERATOR VOLUME (7.5 LITERS) MUST FILL WITHIN THREE MINUTES AND 30 SECONDS.

Water Quality Requirements: For proper steam generator performance, Total Dissolved Solids (TDS) should not exceed 30 parts per million (ppm), and the water pH should be 7.0 or higher.

4.3 Drain Connection

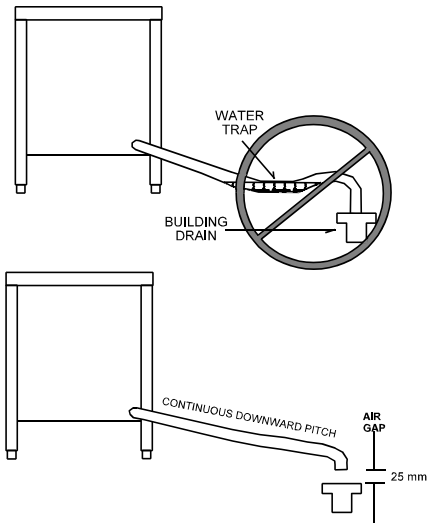
The HY-6E (CE) must be leveled front to back. A 1½ inch (38mm) ID hose may be attached to the drain pipe (supplied) by means of a hose. There must be an air gap between the end of the hose and the building drain.

WARNING
DO NOT CONNECT THE HOSE DIRECTLY TO A BUILDING DRAIN.

The free air gap should be as close as possible to the unit drain. There must also be no other elbows or other restrictions between the unit drain and the two inch free air gap.

CAUTION
DO NOT USE PLASTIC PIPE. THE DRAIN MUST WITHSTAND HOT WATER.

Install the drain line with a constant downward pitch. **IMPORTANT: Do not allow any water traps in the line. A trap can cause pressure to build up inside the cavity during steaming, which will make the door gasket leak.**



Leave an air gap between the hose and the building drain, and don't allow water traps in the hose.

5.0 - Operation

WARNING
ANY POTENTIAL USER OF THE EQUIPMENT SHOULD BE TRAINED IN SAFE AND CORRECT OPERATING PROCEDURES.

5.1 Controls

Operator controls are on the front right of the unit. The control panel has the following touch pads and indicator lights. (Your controls may have either words or the symbols shown below):

The ON/OFF touch pad gets the HyPerSteam ready for use, or shuts it off.

The READY indicator light shows that the steam generator is at standby temperature and the cavity is hot enough to begin steaming.

The CLEANING indicator lights when the unit is operating in the cleaning mode.

The SERVICE indicator light shows when the water level probes have stopped working, and need to be cleaned (normally an indication of lime deposits).

When one probe is not working, the SERVICE light flashes briefly every few seconds. When both probes fail, the light will flash continuously and the beeper will sound.

The HI TEMP indicator light comes on when the steam generator is too hot.

The unit will automatically shut off, and cannot be turned on again until it has been serviced.

The TIMING indicator light stays on when the timer is running.

The CLEAN touch pad is used to start the automatic 50 minute cleaning cycle.

The timer is used in three ways:

1 In the OFF position the steam generator stays at a low boil or “holding” temperature.

2 When a cook time is set, the unit steams until the timer reaches OFF. The steaming stops, a red light comes on and a beeper sounds.

3 With the timer turned to the ON position, the unit steams continuously. The green light stays lit. The steamer will **not** time down.

5.2 Operating Procedure

5.2.1 Press the ON switch/pad for the steamer. The steam generator will fill, and heat until the READY light comes on. (About 10 minutes.)

5.2.2 Load food into pans in uniform layers. Pans should be filled to about the same levels, and be even on top. The maximum allowable weight of food is 9.8 kilograms (21.6 lbs.) per pan.

5.2.3 Open the door and slide the pans onto the supports. If you will only be steaming one pan, put it in the middle position.

5.2.4 Close the door. With the READY indicator lit, take one of the following steps:

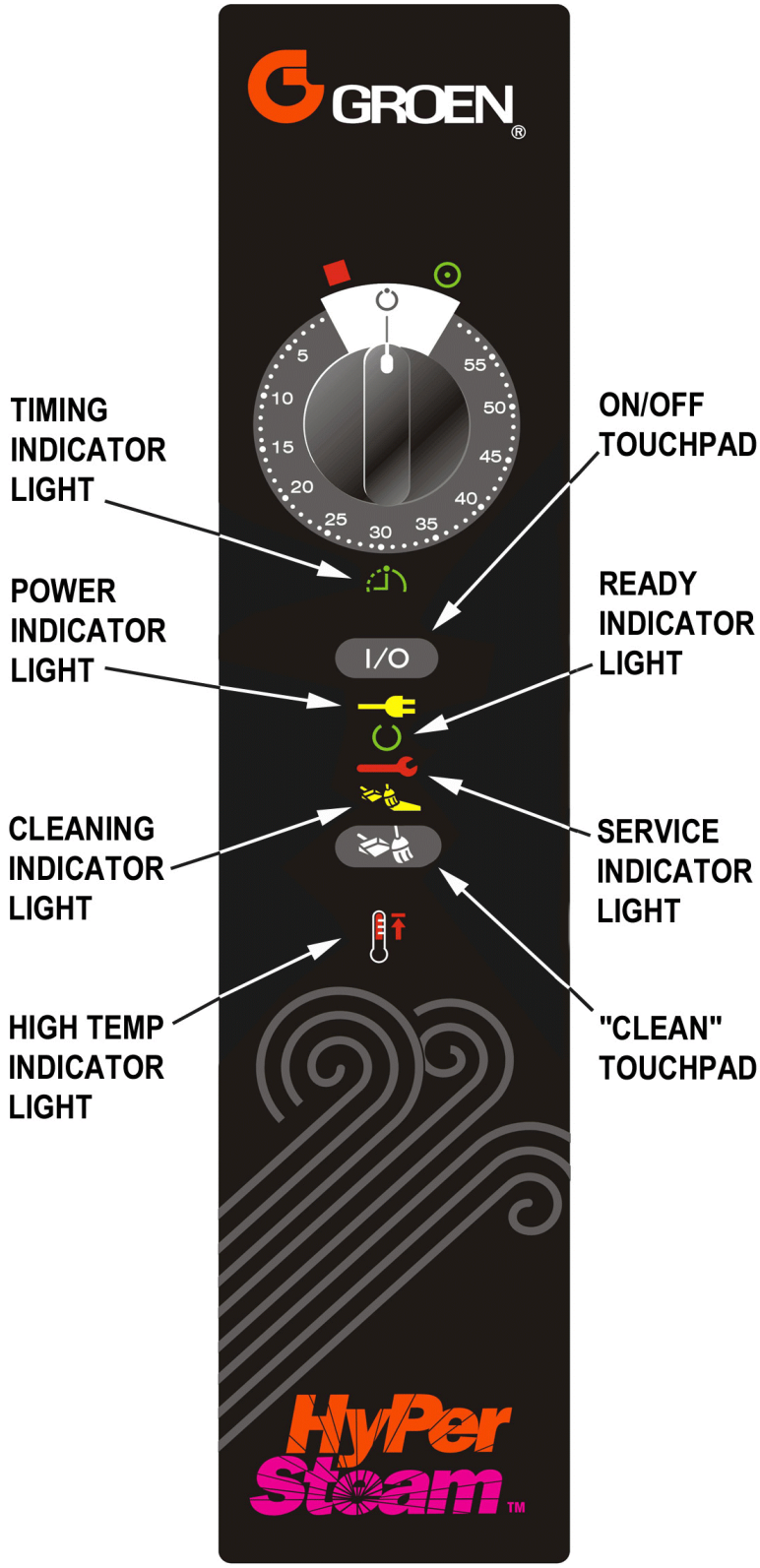
- If you want to steam the food for a certain length of time, set the timer for that period. The timer will automatically run the steamer for the set time and then turn it off. A red light will come on and a beeper will sound. Steam production stops.

- To steam continuously, turn the timer to the manual ON position. A green light will come on. The unit will continue steaming until you stop it by turning the timer to OFF. When steaming continuously YOU MUST CONTROL STEAMING TIME.

WARNING
WHEN YOU OPEN THE DOOR, STAY AWAY FROM THE STEAM COMING OUT OF THE UNIT. THE STEAM CAN CAUSE BURNS.

5.2.5 Open the door. Remove the pans from the steamer, using hot pads or oven mitts to protect your hands from the hot pans.

5.2.6 To shut down the unit, press the ON switch/pad to OFF. The steam generator will automatically drain.



6.0 - Cleaning

To keep your HY-6E Steamer in proper working condition/order, use the following procedure to clean the unit. This regular cleaning will reduce the effort required to clean the steam generators and cavities.

6.1 Suggested Tools

1. Mild detergent
2. Stainless steel exterior cleaner such as Zepper®
3. Steam generator de-liming agent, such as **Groen Delimer Descaler,** Lime-Away® or an equivalent. A liquid de-liming agent will be easier to use than crystals or powders. See the warning about chlorides, below
4. De-greaser, such as EncompasS®, Malone 34®, Puritan Puribrute®, or Con-Lie®
5. Cloth or sponge
6. Plastic wool or a brush with soft bristles
7. Spray bottle
8. Measuring cup
9. Nylon pad
10. Towels
11. Plastic disposable gloves
12. Funnel

6.2 Procedure

6.2.1 Outside of Steamer

1. Prepare a warm solution of the mild detergent as instructed by the supplier. Wet a cloth with this solution and wring it out. Use the moist cloth to clean the outside of the unit. Do not allow freely running liquid to touch the controls, the control panel, any electrical part, or any open louver.

2. To remove material which may be stuck to the unit, use plastic wool, a fiber brush, or a plastic or rubber scraper with a detergent solution.

3. Stainless steel surfaces may be polished with a recognized stainless steel cleaner such as Zepper®.

WARNING

DISCONNECT THE POWER SUPPLY BEFORE CLEANING THE OUTSIDE OF THE STEAMER.

KEEP WATER AND CLEANING SOLUTIONS OUT OF CONTROLS AND ELECTRICAL COMPONENTS. NEVER HOSE OR STEAM CLEAN ANY PART OF THE UNIT.

DON'T MIX DE-LIMING AGENTS (ACID) WITH DE-GREASERS (ALKALI) ANYWHERE IN THE UNIT

AVOID CONTACT WITH ANY CLEANERS, DE-LIMING AGENT OR DE-GREASER AS RECOMMENDED BY THE SUPPLIER. MANY ARE HARMFUL. READ THE WARNINGS AND FOLLOW THE DIRECTIONS!

EVEN WHEN THE UNIT HAS BEEN SHUT OFF, DON'T PUT HANDS OR TOOLS INTO THE COOKING CHAMBER UNTIL THE FAN HAS STOPPED TURNING.

DON'T OPERATE THE UNIT UNLESS THE TWO REMOVABLE INTERIOR PARTITIONS HAVE BEEN PUT BACK IN THEIR PROPER LOCATIONS.

DON'T USE ANY CLEANING OR DE-LIMING AGENT THAT CONTAINS ANY SULFAMIC AGENT OR ANY CHLORIDE, INCLUDING HYDROCHLORIC ACID (HCl). TO CHECK FOR CHLORIDE CONTENT SEE ANY MATERIAL SAFETY DATA SHEETS PROVIDED BY THE CLEANING AGENT MANUFACTURER.

IMPORTANT

DO NOT USE ANY METAL MATERIAL (SUCH AS METAL SPONGES) OR METAL IMPLEMENT (SUCH AS A SPOON, SCRAPER OR WIRE BRUSH) THAT MIGHT SCRATCH THE SURFACE. SCRATCHES MAKE THE SURFACE HARD TO CLEAN AND PROVIDE PLACES FOR BACTERIA TO GROW. **DO NOT USE STEEL WOOL**, WHICH MAY LEAVE PARTICLES IMBEDDED IN THE SURFACE WHICH COULD EVENTUALLY CAUSE CORROSION AND PITTING.

6.2.2 Steam Generator and Cooking Chamber

The steamer cavity and steam generator may be cleaned separately. When cleaning is scheduled, or if theSERVICE light is on, follow these simple de-liming instructions. **REMEMBER: DON'T ALLOW DE-LIMING AGENTS TO MIX WITH DE-GREASERS.**

1. Set the timer to OFF position.
2. Turn off the steamer for five minutes.

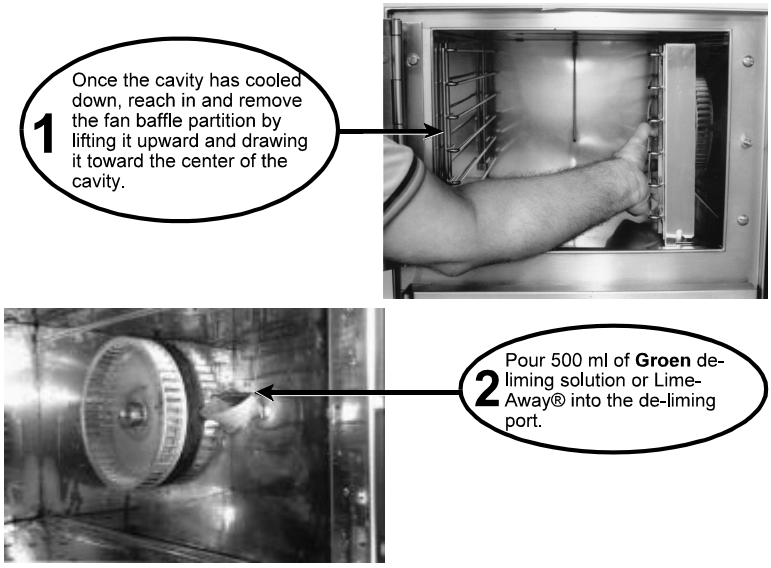
3. Open the door and allow the cavity to cool.
4. After the cavity has cooled five minutes, make sure that the fan has stopped and remove the fan baffle partition by lifting it up and toward the center of the cavity.
5. Wipe out the cavity. **Make sure the drain holes at the back of the cavity are clear of debris.**
6. Hold down the CLEAN button while turning the steamer on. Continue holding it until the CLEANING indicator light comes on. Then release the button. After five minutes, the beeper will begin to beep rapidly. This is the signal to add 500 ml per cavity of **Groen De-limer De-Scaler** (P/N 114800), Lime-A-Way® or equivalent as shown at right. Do not use any de-limer that contains chlorine.

7. Replace fan baffle partition and close door.
8. The cleaning cycle consists of a *boiling clean* stage, a *soak* stage, and a *rinse* stage. **The full cycle takes about 50 minutes to complete.**
9. WEAR PROTECTIVE GLOVES AND EYE PROTECTION FOR THIS STEP. When the steamer beeper sounds, turn off the steamer and open the door. After the fan has stopped, remove the fan baffle partition and rinse it well in a sink. Wipe out the cavity completely. If necessary, use a damp nylon pad.

10. Reinstall the fan baffle.
11. If the steamer will no longer be used, leave it off. Otherwise, wait 10 minutes and turn it back on. When the READY light comes on, the steamer is ready for operation.

6.2.3 If the SERVICE light stays on:

1. Check that the water supply is on and that the supply hose is not kinked. With the problem corrected, turn the steamer off or 10 seconds and then re-start.
2. Repeat steam generator cleaning.



The process for de-liming your HY-6E (CE) Steamer is simple, tool-less and quick.

7.0 - Maintenance

The HY-6E Steamer is designed for minimum maintenance, and no user adjustments should be necessary. Certain parts may need replacement after prolonged use. If there is a need for service, only Groen personnel or authorized Groen representatives should perform the work.

Always supply water with a low mineral count that meets the standards outlined in the **Water Conditioning** section of this manual.

The unit does not contain fuses that could be replaced by the operator.

If steam or condensate is seen leaking from around the door, take the following steps:

1. Check the door gasket. Replace if it is cracked or split.
2. Inspect the cooking chamber drain to be sure it is not blocked.
3. Adjust the latch pin to allow for changes that might occur as the gasket ages:
   a. Loosen the lock nut at the base of the latch pin. Turn the latch pin ¼ turn clockwise, and re-tighten the lock nut.
   b. After adjustment, run the unit to test for further steam leakage
   c. If there is still leakage, repeat the adjustment.
   d. Continue adjusting the pin clockwise until the door fits tightly enough to prevent leakage.

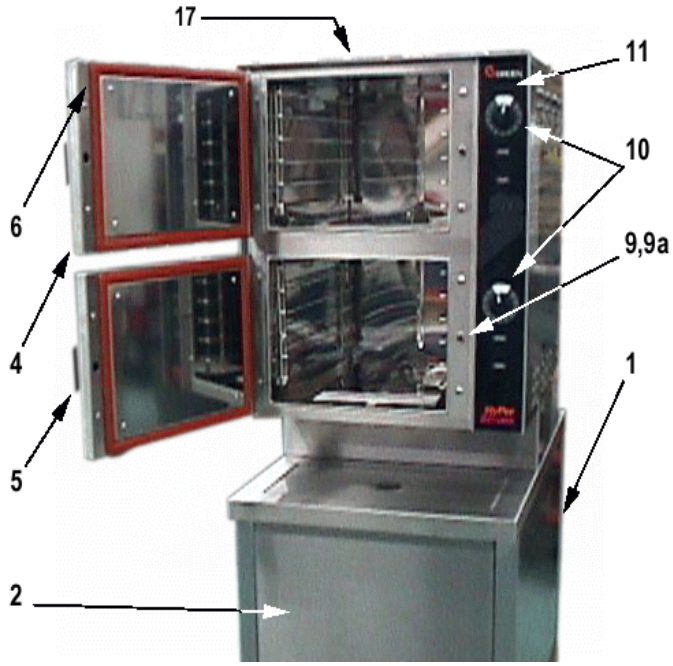
8.0 - Troubleshooting

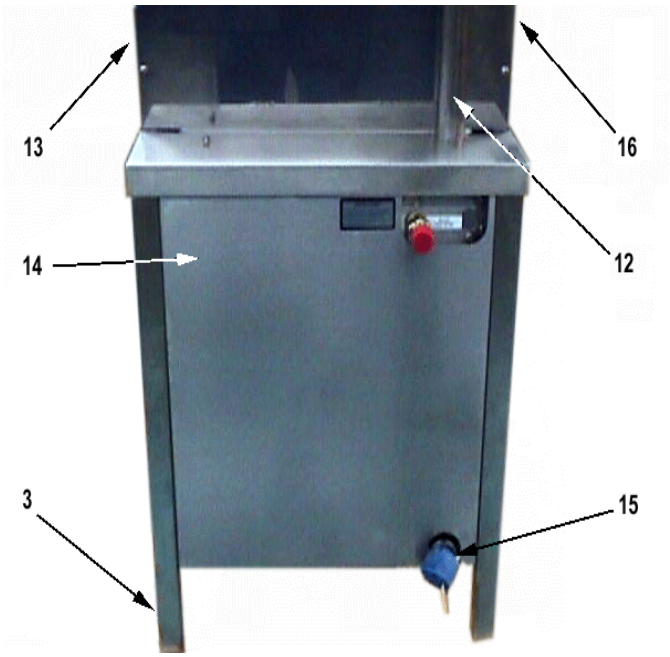
This Groen Steamer is designed to operate smoothly and efficiently if properly maintained. However, the following is a list of checks to make in the event of a problem. Wiring diagrams are furnished inside the service panel. If an item on the check list is marked with (X), it means that the work should be done by a factory-authorized service representative.

SYMPTOM	WHO	WHAT TO CHECK
8.1 Steam generator does not fill with water.	User	a. Is the ON switch depressed? b. Is the water supply connected? c. Is the water turned on? d. Check for low water pressure (less than 30 PSI or 210 kPa). e. Is the screen at the water connection clogged? f. Has the steam generator been delimed?
8.2 No steam.	User	a. Is the ON switch depressed? b. Is the water supply connected? c. Is the water turned on? d. Are steamer doors open? e. Is the steam generator limed up?
8.3 Red (SERVICE) light comes on after four minutes.	User	a. Is the water supply connected? b. Is the water turned on? c. Has the unit been delimed? (Refer to Cleaning Section)
8.4 Excessive steam escaping from rear of unit	User	a. Is the water spray hose kinked or obstructed?
	Auth Service Rep Only	b. Is the water spray solenoid connected?(X) c. Is the drain properly vented? (X)

9.0 - Parts List

9.1 External Cabinet and Sheet Metal



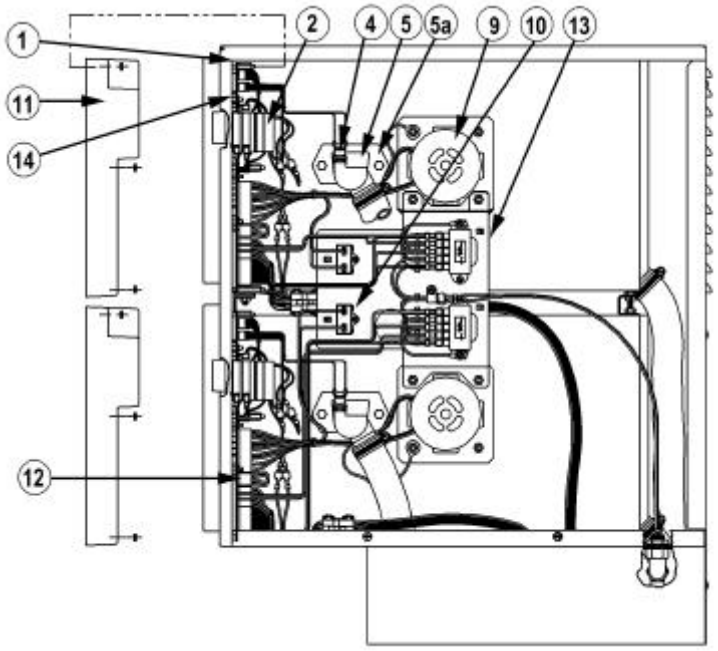


Key	Description	Part No.
1	Lower Side Panels	125899
2	Lower Front Panel	125898
3	Adjustable Table Leg	042505
4	Door	094150
5	Door Handle	070123
6	Door Gasket	094147
7	Left Pan Rack	094148
8	Blower Cover/Rack	096788
9	Door Locking Pin	078914

Key	Description	Part No.
9a	Door Pin Lock Nut	003823
10	Timer Knob	123100
11	Mylar Overlay Plate	123128
12	Vent Pipe	096855
13	Upper Right Side Panel	123183
14	Lower Back Panel	096722
15	Sink Drain Fitting	099943
16	Upper Left Panel	123184
17	Top Panel	123182

9.0 - Parts List

9.2 Cavity Control Section

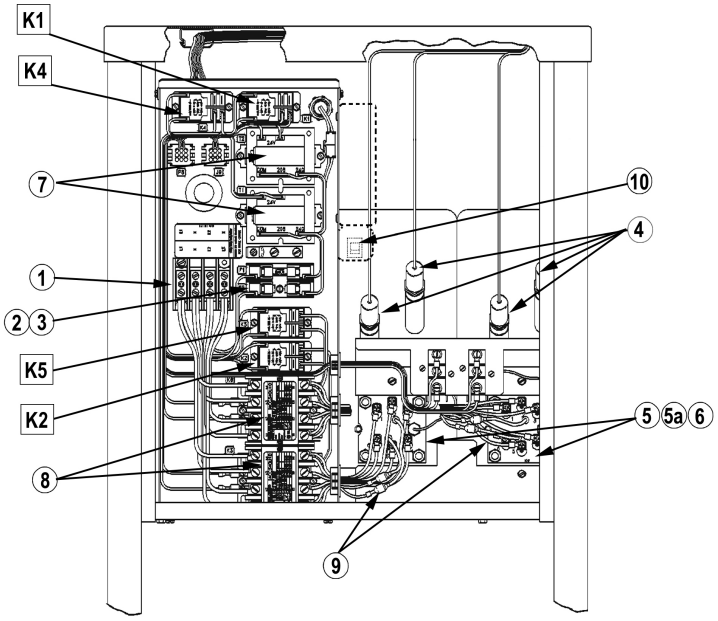


Key	Description	Part No.
1	Top Cover Clip	123150
2	Timer	100983
3 x	Door Switch	096857
4	Ready Thermostat	088865
5	Steam Port	088874
5a	Steam Port Gasket	099250
6 x	Steam Hose, Top	099952
7 x	Steam Hose, Bottom	099951

Key	Description	Part No.
8 x	1-3/8” Hose Clamp	127525
9	Fan Motor	096740
10	Motor Capacitor	096813
11	Cover, Control Panel	119806
12	Steamer Control PC Board	119801
13	Transformer/Capacitor Assy	119815
14	Timer Board	119817
15 x	Timer, 50 Hz	100983

x - Part Not Shown

9.0 - Parts List
9.3 Steamer Base Section



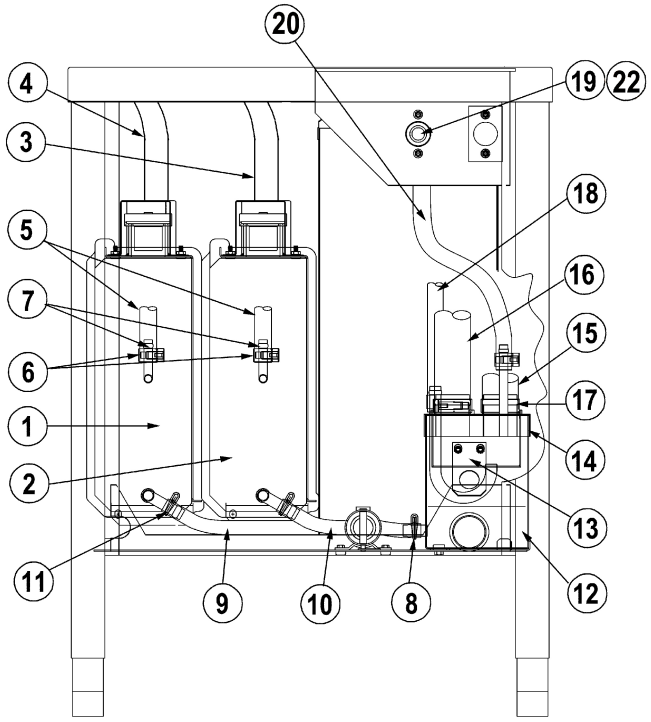
Key	Description	Part No.
1	Terminal Block	096810
2	Fuse Block	096809
3	Fuse 20 Amp	071849
4	Water Level Probes	070178
5	Heater Assy (with hi limit t-stat)	128697
5a	Heater Element 240V	121706
6	Gasket Heater Element	042366

Key	Description	Part No.
7	Control Transformer 120/208/240 Volt Pri. 24 Volt Sec. 150VA	121716
8	Hi-Heat Contactor	119811
9	Harnesses (see pg 21)	
10	Circuit Breaker, 2 Amp	119836
K1/4	Contactor Relay 24 VDC	119814
K2/5	Contactor Relay 12 VDC	119813

“K” Numbers designate the contactor relays for the HY-6E (CE) Steamer.

9.0 - Parts List

9.4 Steamer Base - Rear View

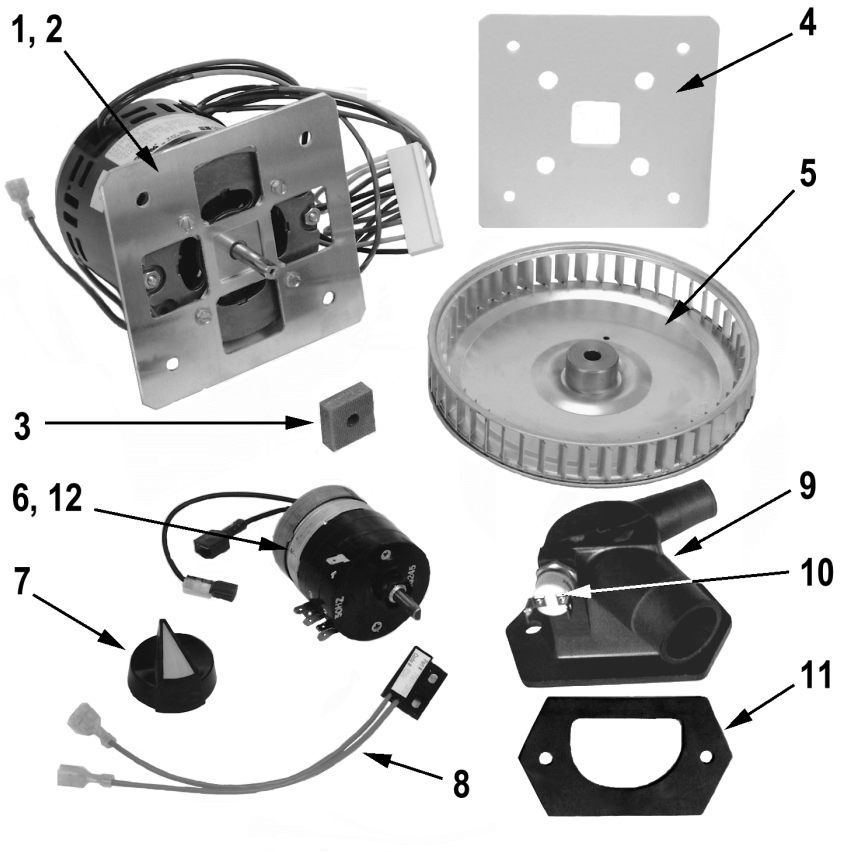


Key	Description	Part No.
1	Outer Steam Generator	096719
2	Inner Steam Generator	096719
3	Top Steam Hose	099952
4	Bottom Steam Hose	099951
5	Water Inlet Hose	096773
6	Water Inlet Hose Clamp	071271
7	Water Inlet Hose Bib	057217
8	Steam Gen Drain Valve	071234
9	Outer Gen Drain Hose	099913
10	Inner Gen Drain Hose	099914
11	St Gen Dn Hose Clamps	095656

Key	Description	Part No.
12	Drain Box	096791
13	Drain Box Flap	099213
14	Drain Box Cover	096792
15	Top Cavity Drain Hose	088847
16	Bot. Cavity Drain Hose	088846
17	Cavity Dr. Hose Clamp	073259
18	Vent Pipe	096855
19	Water Inlet Valve 3 way	090827
20	Hose, Condensate	096771
21	Drain Kit (not shown)	127393
22	Water inlet adapter assy (BSPT)	122144

9.0 - Parts List

9.5 Steamer Motor and Controls



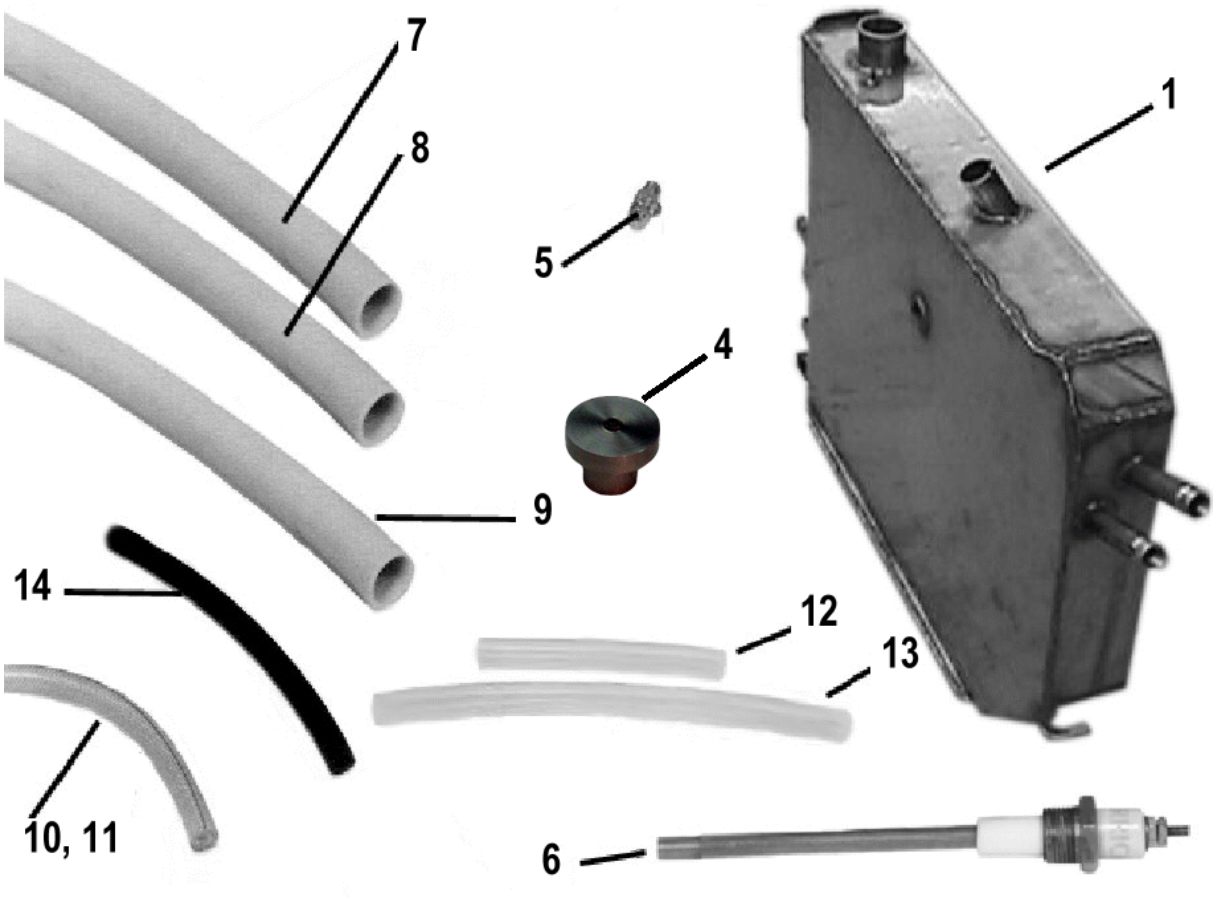
Key	Description	Part No.
1	Fan Motor	096740
2	Motor Mounting Plate	094134
3	Motor Shaft Seal	096868
4	Motor Insulator	094135
5	Fan	096790
6	Timer 50 Hz	100983

Key	Description	Part No.
7	Timer Knob	123100
8	Door Switch	096857
9	Steam Port Kit*	118102
10	-Ready Thermostat	088865
11	-Steam Port Gasket	099250
12	Timer Fastener Nut	101145

***Includes Thermostat and Steam Port Gasket

9.0 - Parts List

9.6 Steamer Generator Individual Parts



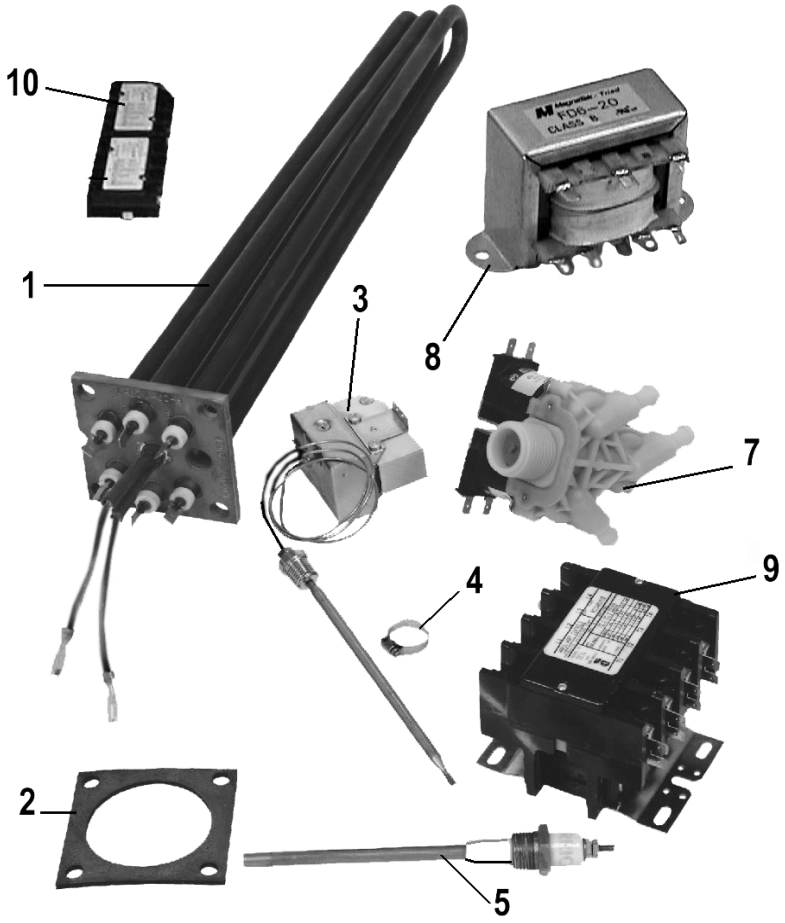
Key	Description	New
1	Steam Generator Weldment	096887
2	Right Steam Gen. Insulation*	096896
3	Left Steam Gen. Insulation*	096770
4	Safety Valve	106392
5	Drain Box Spray Nozzle	081670
6	Water Level Probe	070178
7	Top Cavity Drain Hose	088847
8	Bottom Cavity Drain Hose	088848

Key	Description	New
9	Top Steam Hose	099953
10	Sink Drain Hose	099915
11	Water Inlet Hose	096772
12	Inner Steam Generator Hose	099912
13	Outer Steam Generator Hose	099911
14	Condensate Hose	096771
--	Lower Steam Hose	088880

* - Part Not Shown

9.0 - Parts List

9.7 Steamer Individual Parts



Key	Description	Part No.	Key	Description	Part No.
1	Heater Element, 240V	121706	7	Water Inlet Valve 3-way	090827
2	Heater Element, Gasket	042366	8	Control Transformer 120/208/240 Volt Pri. 24 Volt Sec. 150VA	121716
3	High Limit Thermostat	122009			
4	Thermostat Clamp	093482	9	Hi-Heat Contactor	119811
5	Water Level Probes	070178	10	Relay, 24V DC Coil (Low Heat)	119814
6 x	Heater Assy w/high limit thermostat	128697			

x Part Not Shown

10 - Service Information:

The following procedures are based upon having access to the steamer on all four sides. If the steamer is installed between other appliances and there is not enough room on the sides for access, the steamer must then be pulled out from its position to gain proper access.

Care should be taken in moving the steamer so as not to stress or pull on the electrical and water connections.

10.1 Top Right Side Panel (Louvered) - Removal
P/N 123183

1. With a flat blade screw driver remove the two 10-32 screws on the lower edge and one screw on the top edge of the panel. The panel is held to the steamer by two spring-like clips at the rear and bottom edge.

2. Once the screws are removed SLIDE the panel towards the front with a lifting motion. Do not attempt to PRY the panel. Once the panel is free of the rear and lower clips, it may be lifted off.

ASSEMBLY TIP: When replacing the panel, press the rear edge inward so that both clips will be retained by the back flange. Make sure that the holes in the panel are in alignment with the tapped holes in the steamer so that the replacement of the two 10-32 screws will be easy and not damage the screws.

10.2 Steamer Table Panels
Front P/N 125898
Rear P/N 096722
Left/Right Side P/N 125899

1. To remove the steamer table lower panel, simply raise the panel and swing out. There are no fasteners on this panels and it is retained only by upper and lower tracks.

2. To remove the front and side panels remove the screw(s) holding the panel, then remove the panels.

3. The front and rear panels are unique and the two side panels are identical and interchangeable.

10.3 Top/Left Side - Removal
P/N 123184

Under normal conditions, the top/left side cover should never have to be removed as there are no operational and/or replacement parts to be accessed. The single exception is if the door has been reversed so that the handle is on the LEFT and the Door Interlock Switch is found to be defective and must be replaced. The door switches for BOTH door positions are installed at the time of manufacture, so there is no need to access the switch if the door is to be reversed.

1. If the top/left side cover must be removed due to a faulty door switch, remove the right side panel (as above) first.

Then remove the top left panel in the same manner.

ASSEMBLY TIP: In replacing the top/left panel assembly, *make sure* that the retaining clip is replaced and screwed down tight.

10.4 Adjustable Legs
P/N 042505

1. Each leg is provided with a screw type support post. These may be extended or retracted by turning them with a wrench or ChannelLock. Make sure that all four legs are in tight contact with the floor for proper steamer support.

2. If damaged, these posts may be replaced by tapping out (on opposite sides of the leg) the threaded fitting which is friction held in each stainless steel leg. The stainless leg and the threaded fitting are one assembly.

NOTE*: The following components and assemblies are to be found in the lower table portion of the steamer.*

10.5 Steam Generator Drain Valve
P/N 071234

1. Turn off power and allow steamer to drain completely. Remove back cover panel and loosen hose clamps.

2. Using a 7mm nutdriver, disconnect both ends of the drain hose from the spray box and the steam generator.

3. Unplug and disconnect the valve electrical wires. Remove the 10-32 keps nuts holding the valve to the plate. Remove the valve from the threaded studs. Then remove the silicone hose from the valve.

4. Inspect the silicone hose for any damage or lime buildup. Replace hose if required.

5. Attach new drain valve to valve bracket. Pull silicone hose through drain valve and loosely install hose clamps over both ends of the hose. Be sure silicone hose is properly aligned and does not have any kinks, bends and/or twists.

6. Position the valve over the valve mounting threaded studs and connect both ends of the hose to the drain box and steam generator.

7. Position the clamps so that the worm screw may be easily tightened. Using a 7mm nutdriver, tighten both hose clamps. Be careful not to overtighten clamps as it may cut hose.

8. Install and tighten valve mounting 10-32 cap nuts.

9. Plug valve electrical leads into the wiring harness.

To Test:

Operate steamer and allow steam generator to fill. Check for leaks and observe if drain valve fully closes. Turn off steamer and observe that drain valve opens and the steam generator drains. Install back cover.

10.6 Water Inlet Valve - Three Way
P/N 090827

1. Turn off power to the steamer. Turn off the water supply to the steamer. Remove the water supply hose connection on the rear of the steamer.

2. As viewed from the rear, remove the back panel and the right panel.

3. The water inlet of the valve branches to three individual solenoid activated valves within a single housing, with the following sets of wires:

Solenoid	Wires
Top Steam Generator Fill:	Green and Blue
Bottom Steam Generator Fill:	Violet and Gray
Condensate Spray:	Black and White

4. Using a 7mm nutdriver, loosen the three hose clamps on the water inlet valve.

5. Slide the hose clamps down the hose until needed for reassembly. Loosen and remove the hoses using a gentle rocking motion.

6. From the back of the steamer, remove the two screws holding the valve assembly in place. Then lower the valve WITH THE WIRES STILL ATTACHED.

7. From the back of the steamer, remove the two 8-32 screws holding the valve assembly in place. Lower the valve.

8. Carefully unplug the connectors, one at a time and attach to the new valve.

9. To install a new valve, reverse the procedures and first install the six wires (three sets) as listed in Item 3 of this Section. Fasten the valve to the steamer with the two screws. Make sure that the valve is NOT installed upside down.

10. Re-attach the hoses to the valve. Slide the hoses all the way so that the end of the hose is flush against the face of the valve.

IMPORTANT. Make sure that the correct steam generator hose is connected to the corresponding valve outlet. Slide the hose clamps back into position around the end of the hose and tighten the clamps.

CAUTION: Do not overtighten these clamps as that may damage the valve.

Slide the hose clamps so that they are within 1/8 inch (3 mm) from the end of the hose.

TOP hose — to the TOP Steam Generator
MIDDLE hose — to the BOTTOM Steam Generator
BOTTOM hose — to the DRAIN Box

11. Attach the three sets of wires to the valve making sure that the proper wires are connected to the corresponding terminals.

To Test:

With power ON, turn on the power switch to one cavity. The fill solenoid for that steam generator should energize allowing water to enter the steam generator. When READY light is ON, spray valve solenoid should energize and water should enter the drain box.

10.7 Water Inlet Valve Coil

If a solenoid coil on the water inlet valve is defective, replace the entire valve in accordance with Section 10.6.

10.8 Drain Box Spray Nozzle
P/N 081670

1. Raise the stainless steel vent pipe to remove it from the drain box. Do not loosen the hose clamp around the vent pipe. The hose clamp serves to prevent the pipe from going too far into the drain box. Secure the vent pipe in the raised position.

2. Lift the cover of the drain box. There are no fasteners holding the cover on the drain box.

3. Tip the cover and note there is a circular hole in the middle and the spray nozzle (with a hex head) is in the center of the hole.

4. With a socket wrench, turn the spray nozzle in the counter-clockwise direction to remove.

5. To install new nozzle, place pipe compound on the nozzle threads, insert nozzle in socket wrench and start the nozzle in the hole. Tighten nozzle.

6. Replace cover on drain box and lower vent pipe into the drain box.

10.9 Steam Generator
P/N 096719

1. Shut off power and water to the steamer.

2. Disconnect the water inlet hose, steam hose and drain hose by loosening the hose clamps and working the hose off the respective fitting.

3. Disconnect the wires to the high and low water probes.

4. Unplug the wires to the electric heaters. There are six terminals for the high heat heaters and a set of two pigtail wires for the low heat heater.

5. Remove the high limit thermostat box and disconnect the two wires attached to this box.

6. With a socket wrench, remove the four 1/4-20 bolts holding the steam generator to the steamer table.

7. The entire steam generator (with fittings attached) may now be removed. Remove outer bolt from the side and inner bolt from the rear.

8. Once the steam generator has been removed, the fittings and heater elements may be transferred to the new steam generator. Make sure that all screw fittings are installed using high temperature pipe compound.

NOTE: *Refer to appropriate sections for detailed instructions on fittings and heater assembly.*

9. The steam generator is covered with an insulation blanket. Carefully remove this blanket without tearing it so that it can be reused on the replacement steam generator.

To Install:

10. Carefully wrap the thermal blanket onto the steam generator. Make sure it fits snugly with no air spaces between the blanket and the steam generator. Fasten seams with aluminum duct tape.

11. Position the steam generator in place and attach using a socket wrench to install the four 1/4-20 bolts.

12. Attach wires to thermostat box and install box to steamer.

13. Connect heater terminals. Make sure that the number terminals on the wire harness correspond with the numbers on the heater plate. Plug together the wires for the low temperature heater.

14. Attach the water inlet hose, drain hose and steam hose. Tighten hoses around fittings with hose clamps

10.10 Steam Generator Probes (High and Low Water) P/N 070178.

1. Shut off power to the steamer.

2. With a wrench LOOSEN, but do not remove the nuts holding the wire(s) on the probe terminal(s)

3. The wires are connected to wire fork terminals. These will "snap" on and off the terminal post. "Un-snap" them by gently pulling on the terminal.

4. Using an open ended wrench, turn the probe counter-clockwise to remove.

To Install:

5. Apply high temperature pipe compound to the probe and screw it in by hand. Using an open ended wrench, tighten the probe into the fitting.

6. Replace the wire(s) to the probes by snapping the fork terminals around the terminal post. Using a wrench, tighten the terminal nut.

NOTE: If two probes are to be replaced, either replace them one at a time or note the color of the wires attached to the probes. Do not get them mixed up.

10.11 Heater Assembly (Complete with High Limit Thermostat
P/N 128697

1. Shut off power to the steamer.

2. Make sure all water is drained from the steam generator(s).

3. Unplug the six terminals for the high heat elements on the heater plate. Note which wires (in the harness) go to which terminals. Both the terminals and wires are numbered I to 6.

4. Unplug the set of two pigtail wires connecting the low heat element to the heater plate.

5. Remove the two 6-32 self-tapping sheet metal screws holding the thermostat switch to the steamer table. Disconnect the two wires attached to the thermostat switch by loosening the brass screws on the switch. The switch must be removed to gain access to these screws.

6. With a socket wrench with extension, remove the four 1/2 inch nuts and lockwashers holding the heater assembly in the steam generator.

7. The heater assembly may be removed by sliding it out from the steam generator. Note that the high limit thermostat is attached to the center (No. 2) heating element.

8. Remove the gasket attached to the steam generator and throw it away. Always use a new gasket.

To Prepare:

9. Remove the high limit thermostat from the heater element by cutting the three stainless steel bands with a diagonal cutter.

10. With an open ended wrench, loosen the capillary fitting from the thermostat.

11. Apply high temperature pipe compound to the fitting and install the high limit thermostat (or replacement) fitting in the heater plate with an open ended wrench.

12. Fasten the thermostat bulb to the heater as described in Section 10.12.

To Install:

13. Install new gasket onto the four threaded studs on the steam generator.

14. Insert the entire assembly into the steam generator. There is an orientation pin so that the assembly may only be installed in the correct way. This pin is on the left of the steam generator. When properly installed, Terminals 1, 2 and 3 are on top.

15. Install the four lockwashers on each of the threaded studs. Install the four 1/2 inch nuts by hand to retain the assembly.

16. Using a socket wrench (with extension) tighten the nuts to the threaded studs.

17. Attach the high limit thermostat box to the steamer table using the two 6-32 screws.

18. Attach the six terminals of the wiring harness to the heating elements. Note that the correct wire number goes to the correct terminal. Plug in the low heat pigtail wires to the harness.

10.12 Steam Generator High Limit Thermostat

P/N 122009

Stainless Steel Clamp

P/N 093482

1. Shut off electrical power to the steamer.

2. Remove the heating elements from the steam generator as described in Section 10.11

3. With a diagonal cutter, cut the three stainless steel bands holding the thermostat bulb to the heater element.

4. With an open ended wrench, unscrew the thermostat element from the heater plate.

To Install:

5. Apply high temperature pipe compound to the threads of the new thermostat fitting. Screw the thermostat fitting into the heater plate. Tighten with an open ended wrench.

6. Position the bulb portion of the thermostat on top of heater coil No. 2 (center heater).

7. Position the three stainless steel tie bands around BOTH the heater coil and the thermostat bulb.

NOTICE: Use only the stainless steel tie bands (Groen P/N 100968). Be careful that the thermostat bulb is in position before inserting the end of the band in the locking pod, as once it is inserted it cannot be removed.

8. Once in position, pull the tie band all the way into the locking pod. Using a needle-nose pliers hold the band where it enters the pod and turn the band to draw it tighter into the pod. Cut off the excess band with a diagonal cutter.

9. Tighten the compression nut on the heater plate using an open ended wrench.

10.13 Supply Voltage Terminal Block - P/N 096810
Fuse - P/N 096809
Fuse 20 Amp - P/N 071489

1. Turn off the power to the steamer.

2. Remove the cover from the electrical compartment.

3. The terminal block is located on the back wall of the electrical compartment.

4. Using a flat blade screwdriver, disconnect the incoming wires from the top of the terminal block and the steamer wires from the lower portion of the terminal block.

5. With a wrench, remove the four 8-32 screws holding the terminal block to the back wall.

To Install:

6. Position the new terminal block on the back wall and install the four 8-32 screws using a wrench.

7. Using a flat blade screwdriver, connect the incoming wires to the top of the terminal block, and the steamer wires to the lower portion of the terminal block.

10.14 Control Voltage Transformer
P/N 121716

1. Turn off power to the steamer.

2. Remove the front lower panel.

3. Using an open ended wrench, remove the four 1/4-20 bolts holding the electrical compartment to the steamer table.

4. Disconnect the line side and the load side of the electrical wires from their respective terminals.

5. Using a socket wrench with an extension, remove the four 8-32 hex nut screws holding the transformer to the floor of the electrical compartment.

To Install:

6. Position the transformer in the electrical compartment.

7. Using a socket wrench with an extension, insert and tighten the four 8-32 hex nut screws.

8. Connect the load and line side terminals.

10.15 Electrical Contactor
P/N 119811

1. Turn off power to the steamer.

2. Remove the front lower panel.

3. Using an open ended wrench, remove the four 1/4 - 20 bolts holding the electrical contactor to the electrical compartment.

4. Unplug the line side and the load side terminals of the contactor. Disconnect the control wires to the contactor.

5. Using a socket wrench and extension, remove the four 8-32 hex nut screws holding the contactor to the floor of the electrical compartment.

To Install:

6. Position the contactor in the electrical compartment.

7. Using a socket wrench and extension, insert and tighten the four 8-32 hex nut screws.

NOTE: *The space is very restricted and it is helpful if the nutdriver has a magnetic head to hold the screw in position while it is being started.*

8. Connect the load and line side terminals and the control wires.

NOTE. The following components and subassemblies are to be found in the upper portion of the steamer.

10.16 Timer Assembly P/N 100983 **Timer Fastener Nut** P/N 101145

1. Remove the four hex nuts which retain the control panel cover. Remove the cover.

2. Remove the knob from the timer. Under the knob is a hexagonal nut which holds the time mechanism to the steamer. Note that there is a flat on the timer shaft which corresponds to a frictional mounting hole on the knob.

3. From the left side, unplug the five terminals/wires (violet, gray, black, tan and white) from the timer mechanism and unplug the two black timer motor leads.

4. With an open-ended wrench, remove the hex nut holding the timer in place. The timer may then be removed from inside the compartment.

5. **NOTE:** Right below the timer shaft, the timer has a small plastic disk molded onto the case. There is a

corresponding hole punched into the front panel. This hole may be seen from the inside of the compartment only when the timer is removed.

To Install:

6. Fit the timer in place making sure that it is properly placed so that the disk on the timer fits into the punched hole in the front panel.

7. Once the timer is properly located, tighten the hex nut so that the timer does not slip or rotate. Do not overtighten the nut.

8. Align the flat of the knob hole with the flat on the timer shaft. Press the knob firmly onto the timer shaft.

9. Plug in the wires identified above and connect the two black wires from the motor leads.

10. Reattach the control panel cover.

10.17 Fan
P/N 096790

IMPORTANT: Make sure that the fan has come to a complete stop before attempting any work on the fan.

1. To remove the fan from either the top or bottom cavity, open the door and remove the pan support wire rack in front of the fan.

2. With an allen wrench, loosen the set screw which holds the fan to the motor shaft.

3. Hold onto the fan, and with a slight rocking motion pull the fan off the motor shaft.

To Install:

4. Note that the motor shaft has a flat surface. Position the fan hub on the motor shaft so that the allen set screw is opposite the flat portion of the motor shaft.

5. Slide the fan onto the motor shaft far enough so that the motor shaft is at the end of the fan hub.

6. With an allen wrench, tighten the set screw on the fan.

NOTICE: Advise customer to periodically clean the fan blades of deposited food grade grease coming from the foods being cooked. The deposit of such grease over time could cause the fan to vibrate.

10.18 Fan Motor Assembly
P/N 096740
Motor Shaft Seal
P/N 096868
Motor Insulation
P/N 094135
Oil Slinger Washer
P/N 096831

1. Shut off electrical power to the steamer.

2. From inside the cavity, remove fan using an allen wrench as indicated in Section 10.17.

3. Using a socket wrench, remove the four 1/4-20 Keps nuts holding the motor. Note that one of the nuts secures the motor ground strap to the steamer.

4. Pull the printed circuit mounting plate forward to clear the lower two threaded studs securing the motor.

5. Remove the motor mounting plate to which the motor is attached.

To Install a New Motor:

6. Make sure the motor insulation board is installed on the four threaded studs to the cavity wall.

7. Apply lubricant on both sides of the steamer motor seal and the inside hole. Refer to the Motor Assembly Chart.

8. Insert the steamer motor seal in the cutout of the insulator board.

9. To prepare motor for mounting, slide the oil slinger washer onto the shaft about ½" (12 mm) down the shaft.

IMPORTANT: This washer has two surfaces: A rubber surface and a phenolic surface. Make sure the phenolic surface is facing the motor.

10. Install the plate seal holder onto the motor shaft. Carefully slide the plate seal holder down the motor shaft until it engages the slinger washer. Continue moving the plate seal holder down the motor shaft until the plate comes to rest on the raised bosses of the motor casting.

11. Using this technique, the rubber side of the oil Slinger washer should be in contact with the plate holder and **there should be a space of approximately 5/64" (2 mm) between the phenolic face of the washer and the motor**.

12. Using four hex/slotted 6-32 screws, screw the motor mounting plate to the motor with each screw passing through corresponding holes in the plate seal holder.

13. The entire assembly may now be positioned on the four threaded stud bolts protruding from the cavity wall. Fasten the assembly with the 1/4-20 Keps nuts using a socket wrench. Make sure that the green ground strap is fastened by one of the Keps nuts securing the motor.

10.19 Motor Starting Capacitor
P/N 096813

1. Turn off electrical power to the steamer.

2. Loosen and remove the screw holding the capacitor.

3. Unplug the two terminal wires from the capacitor. Remove the capacitor.

To Install New Capacitor:

NOTICE: Make sure that the correct capacitor is used, which is 3 mfd at 330 volt. *This capacitor is different from that used on Model HY-6G.*

4. Make sure the capacitor is seated properly, then tighten the screw securing the capacitor to the mounting plate.

5. Plug terminal wires to the capacitor.

10.20 Steam Generator Ready Thermostat
P/N 088865

This thermostat is attached to the cavity steam port by two 6-32 screws.

1. Turn off power to the steamer.

2. Unplug the two wires from the thermostat from the wiring harness.

3. Using a flat blade screwdriver, remove the two screws holding the thermostat to the steam port.

4. To install a new thermostat, use a small amount of heat sink compound (1 drop), applied to bottom of thermostat. Seat the thermostat on the steam port and fasten with the two screws (as above).

5. Plug the thermostat into the wiring harness.

10.21 Steam Port Gasket
P/N 096736 P/N 099250

1. Shut off power to the steamer.

2. Remove the 1-1/8 inch steam hose by loosening the clamp around the hose and sliding it away from the steam port. Loosen hose and remove from steam port.

3. With a flat blade screwdriver, remove the two 6-32 screws holding the thermostat to the steam port.

4. With a sharp knife or small scissor, cut the aluminum foil insulation blanket as shown at left.

5. Fold up aluminum foil insulation blanket to expose the two 1/4-20 Keps nuts which hold the steam port to the cavity wall threaded studs.

6. With a socket wrench, remove the two Keps nuts.

7. Remove the steam port from the threaded studs.

To Install:

8. Put a small bead of silicone sealant in and around the groove in the steam port to seal any possible leaks, or use gasket P/N 099250.

9. Install steam port on threaded studs. Secure with two Keps nuts.

10. Fold down aluminum foil insulation blanket to original blanket position and repair cuts with aluminum foil duct tape.

11. Reinstall thermostat as described in 10.20 above.

12. Reinstall steam hose to steam port and install the clamp.

10.22 Cavity Steam Hose Assemblies
P/N 099952 (Top)
P/N 099951 (Bottom)

There are two hoses which connect the steam generators with their respective cavities. One for the top cavity and one for the bottom cavity. If both hoses are to be replaced, replace them one at a time.

1. Shut off power to the steamer.

2. Remove cavity side and lower side panels of table.

3. In the upper portion of the steamer, remove hose. Turn and pull the hose to remove it from the hose nipple.

4. In the lower section of the steamer, remove the hose clamp from where the hose is connected to the steam generator. Turn and pull the hose to remove it from the hose nipple.

5. The hose may be removed. Be careful that the hose clamps do not fall off and get lost.

   IMPORTANT: Make sure that the correct part (and part number) are being used. The two hoses in the steamer are of different lengths. (See Page 17 for Part Numbers.)

To Install:

6. Slide the two hose clamps onto the hose and position the hose adjacent to the steam port and steam generator.

7. Slide the hose onto the hose nipple on the steam port and at the other end, onto the steam generator nipple. Make sure the hose is on all the way so that the end of the hose is against the face of the nipples.

8. Install the hose clamps 5/64" (2 mm) from the end of the hose.

10.23 Door Removal/Installation/Alignment
P/N 094150

1. To remove the door, turn off the steamer power and allow the steamer to cool. Then, remove door by supporting the weight of the door and remove hinge pin.

2. Place the door on a flat, clean table or similar support, with gasket facing up. *Be careful not to scratch door surface.*

3. Inspect door gasket for signs of cuts or other defects which may impair its function. Replace if necessary.

To Install:

4. To install the door, apply NEVER-SEEZ lubricant to hinge pin. Align door with hinge and insert hinge pin, or apply Locktite 242 to the door-to-hinge bolts, then install door and mounting bolts. Do NOT tighten mounting bolts at this time.

To Align:

5. Place a piece of masking tape over the door pin (bullet) hole in the door.

6. Close the door until the door pin just penetrates the masking tape. Make sure the door pin contacts only the door latch spring.

7. If door pin does not strike the center of the masking tape or spring hole in the U-channel, loosen the hinge-to-oven bolts and align the door to the door pin. Tighten hinge-to-oven mounting bolts.

8. You should be able to pull a dollar bill or comparable piece of paper smoothly between the gasket and oven cavity with the door closed. To adjust the hinge side, loosen the door-to-hinge bolts and align the door gasket with the oven cavity. Tighten the door-to-hinge mounting bolts. To adjust the bullet side refer to 10.29.

9. Operate oven in steam mode and check for leaks.

10.24 Door Switch
P/N 096857

1. From the right side of the steamer with panel removed, unplug the door switch from the cable harness.

2. The switch (for normal door opening) is held in place with two small 4-40 screws. With a flat blade screwdriver, remove these screws and the switch may be removed.

3. To install 4-40 screws for the door switch use a screw starter.

4. If the door has been reversed and the switch must be removed and replaced, refer to the top and left side panel removal in Section 10.3 and then remove the switch as above.

10.25 Door Reversing Procedures

1. Turn off steamer power and allow steamer to cool.

2. To remove door, support door while removing hinge-to-steamer bolts.

3. Place door with hinge on a flat, clean table (or similar support), with the gasket facing *up. Be careful not to scratch door surface.*

4. Note and record distance between lock nut and end of door locking pin (bullet). This information will be needed during bullet installation described in Step 6.

5. Loosen lock nut with a wrench. Remove door locking pin and lock nut.

6. Coat bullet threads with NEVER-SEEZ high temperature compound. Install door locking pin and lock nut directly across steamer cavity from old door locking pin location. Install these items so that lock nut-to-end of bullet distance is approximately the same as measured in Step 4.

7. Remove the two 1/4-20 truss head screws from above and below the old bullet location and install them above and below the new bullet location.

8. Remove screws and U-channel from the door. Take the magnet and block assembly from present location and place it at the opposite end of the door channel, with the magnet facing outward from the door.

9. Remove screws. Remove door handle from cam.

10. Apply NEVER-SEEZ high temperature (rated for 250ºC) anti-seize and lubricating compound to the cam and Locktite 242 to screw threads.

11. Turn handle and cam 180-degrees from their original positions and install them on the door with screws. Be sure handle and cam move smoothly.

12. Be sure door handle is in the DOWN position. Turn U-channel 180-degrees from its original position, hold door spring in U-channel open with a screwdriver or similar tool, and install U-channel.

13. Check operation of the cam. Push up on the door handle and check if the spring opens. If the spring does not open, cam and spring are NOT correctly aligned and problem must be corrected.

14. Apply a light amount of Locktite 242 to screws, then install screws.

15. Apply Locktite 242 to the hinge-to-steamer bolts, then install door and hinge mounting bolts. Do NOT tighten mounting bolts at this time.

16. Align door to steamer. Refer to 10.23, Alignment procedure.

IMPORTANT. When the door is reversed, the alternate door switch (installed at time of manufacture) must be connected to the circuit.

17. From the right side access to the upper portion of the steamer, disconnect the two leads of the door switch.

18. In between the upper cavity and the lower cavity, the wires for the alternate door switch may be found. Connect the two wires from the switch to the wiring harness.

19. Close steamer door and operate steamer. If steamer fan does not operate, check location of door magnet and try operation again. If fan operation problem still exists, refer to the Troubleshooting Section of this Manual.

20. Allow steamer to operate for approximately 5 minutes, and then check for leaks. If there are no leaks then steamer is ready for operation. If there are leaks around the door, recheck door alignment, and if necessary, door gasket installation.

10.26 Door Gasket
P/N 094147

1. To install, turn off steamer, and allow to cool.

2. Remove the door hinge using one of the following two methods:

   a) Support door weight and remove hinge pin, or

   b) Support weight of the door and remove the two door-to-hinge bolts.

3. Place the door on a flat, clean, smooth table or similar support. *Be careful not to scratch the door*

4. Position door on workbench so that its front is lying flat, with handle hanging over edge of bench.

5. Remove inner d12oor panel.

6. Remove and discard gasket.

7. Clean back of the inner door panel. Be sure old sealant is completely removed.

8. Install new door gasket around inner door panel as shown in the illustration. *Be sure the inner door panel flange is fully inserted into the door gasket groove.*

9. Apply a high temperature silicone sealant, such as GE RTV 180 or equivalent, to the four door spacers.

10. Apply Locktite 242 to the inner door panel mounting screws.

11. Install inner door panel and door gasket on the door spacers, and tighten mounting screws.

12. Align door with hinge and insert hinge pin OR apply Locktite 242 to the door-to-hinge bolts, then install door and mounting bolts. Do NOT tighten mounting bolts at this time.

13. Align door to steamer.

10.27 Door Handle, Magnet and Block Assembly

Door Handle	P/N 070123
Magnet & Block	P/N 069762
Screws	P/N 005764
Door Cam	P/N 074252
U-Channel Assy	P/N 094144
Outer Door Panel	P/N 094140
Inner Door Panel	P/N 094141
Door Insulation Bd	P/N 094192

1. Turn steamer off and allow it to cool.

2. Remove screws and U-channel from the door.

3. Remove screws, door handle, and cam.

4. Apply a NEVER-SEEZ high temperature compound to the door cam and Locktite 242 to screw threads.

5. Assemble door cam to handle with screws.

6. Be sure door handle is in the DOWN position. Hold U-channel door spring open with a screwdriver or similar tool, then install the U-channel. Do NOT install screws at this time

7. Check operation of the cam and door spring. Push up on the door handle and check if spring opens. If the spring does not open, the cam and spring are not correctly aligned and the problem must be corrected.

8. Apply a light amount of Locktite 242 to screws, then install screws.

10.28 Door Spring
P/N 078911

1. Turn off steamer and allow it to cool.

2. With flat blade screwdriver, remove two 8-32 truss head screws on U-channel and remove U-channel from door.

3. Carefully remove retaining ring from one end of spring support pin, then remove the pin by moving the pin to the left and to the right.

4. With a socket wrench, remove the 10-32 Keps nut, lift the square plate, and then remove the spring.

To Install:

5. Apply a high temperature (rated 250ºC) anti-seize, lubricating compound (NEVER-SEEZ) on the bottom of the U-channel surface that connects with the spring.

6. Install spring onto brass roller, then place square plate over spring.

7. Apply Locktite 242 to Keps nut and install Keps nut.

8. Install spring support pin, then push the retaining ring onto the pin using a screwdriver.

9. Hold door spring open with a screwdriver or similar tool, hold door handle in the down position and install the U-channel, top end first - then lower channel into position. Check that spring opens when door handle is pushed up.

10. Apply Locktite 242 to U-channel mounting screws, then install the screws.

11. Replace the two 8-32 truss head screws in the U-channel, applying Locktite 242 to secure them in place.

10.29 Door Locking Pin
P/N 078914
Lock Nut
P/N 003823

1. Turn steamer off and allow it to cool

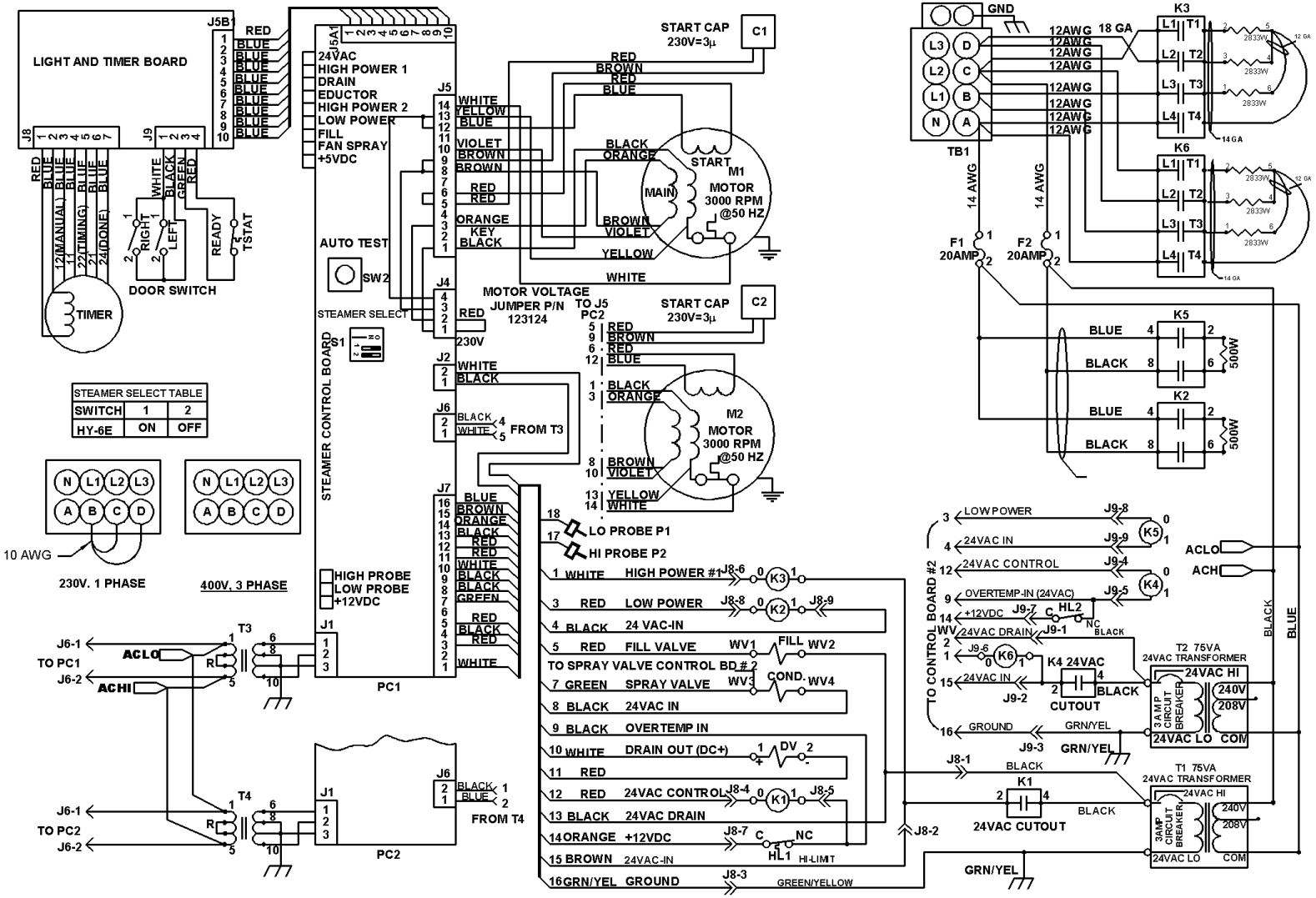
2. Note and record the distance between the lock nut and the end of the (bullet shaped) door locking pin. This information is important and will be needed for installation.

3. Loosen lock nut and remove lock nut and door pin (bullet) from front panel.

4. To install new door locking pin, coat locking pin threads with NEVER-SEEZ high temperature compound.

5. Install locking pin and lock nut. The lock nut to end-of-bullet distance should be approximately the same as measured above, in Step 2.

11 - Electrical Schematic



HY-6E (CE) WIRING DIAGRAM P/N 128699 REV A

12 - Service Log

Model No. _____ Purchased From _____

Serial No. _____ Location _____

Date Purchased _____ Date Installed _____

Purchase Order No. _____ For Service Call_____

Date	Maintenance Performed	Performed by

*Limited Warranty To Commercial Purchasers**

(for Areas Outside of the U.S. and Canada)

Groen Foodservice Equipment ("Groen Equipment") has been skillfully manufactured, carefully inspected and packaged to meet rigid standards of excellence. Groen warrants its Equipment to be free from defects in material and workmanship for twelve months from date of installation or eighteen months from date of shipment with the following conditions and subject to the following limitations.

I. This parts warranty is limited to Groen Equipment sold to the original commercial purchaser/users (but not original equipment manufacturers), at its original place of installation, in areas outside the U.S. and Canada.

II. Damage during shipment is to be reported to the carrier, is not covered under this warranty, and is the sole responsibility of the purchaser/user.

III. Groen, or an authorized service representative, will repair or replace parts, at Groen's sole election, for any Groen Equipment, including but not limited to, draw-off valves, safety valves, gas and electric components, found to be defective during the warranty period.

IV. This warranty does not cover boiler maintenance, calibration, or periodic adjustments as specified in operating instructions or manuals, and consumable parts such as scraper blades, gaskets, packing, etc., or labor costs incurred for removal of adjacent equipment or objects to gain access to Groen Equipment. This warranty does not cover defects caused by improper installation, abuse, careless operation, or improper maintenance of equipment. This warranty does not cover damage caused by poor water quality or improper boiler maintenance.

v. THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, EACH OF WHICH IS HEREBY EXPRESSLY DISCLAIMED. THE REMEDIES DESCRIBED ABOVE ARE EXCLUSIVE AND IN NO EVENT SHALL GROEN BE LIABLE FOR SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR THE BREACH OR DELAY IN PERFORMANCE OF THIS WARRANTY.

VI. Groen Equipment is for commercial use only. If sold as a component of another (O.E.M.) manufacturer's equipment or if used as a consumer product, such Equipment is sold AS IS and without any warranty.

* **(Covers All Food Service Equipment Ordered After October 1,1995)**

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